AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1 (currently amended): An implantable prosthesis comprising a rigid material with pores, wherein a filler comprising a hydrogel, a structural protein, a bioactive agent, or mixtures thereof, is located within the pores, wherein said rigid porous material with the filler presents a smoother surface for fluid flow than pores without filler.

Claim 2 (original): The implantable prosthesis of claim 1 wherein the filler fills the pores.

Claim 3 (original): The implantable prosthesis of claim 2 wherein the rigid porous material with the filler presents a smooth surface to flow.

Claim 4 (original): The implantable prosthesis of claim 1 wherein the filler partly fills the pores.

Claim 5 (original): The implantable prosthesis of claim 1 wherein the filler comprises a hydrogel selected from the group consisting of poly(ethylene glycol), poly(hydroxyethyl methacrylate), partially or fully hydrolyzed poly(vinyl alcohol), poly(vinylpyrrolidone), poly(ethyloxazoline), poly(ethylene oxide)-co-poly(propylene oxide) block copolymers, polyamines, polyacrylamide, hydroxypropylmethacrylate, carboxymethyl cellulose, hydroxyethyl cellulose, methylhydroxypropyl cellulose,

polysucrose, hyaluronic acid, alginate, chitosan, dextran, gelatin and mixtures and copolymers thereof.

Claim 6 (original): The implantable prosthesis of claim 1 wherein the filler comprises a structural protein.

Claim 7 (original): The implantable prosthesis of claim 6 wherein the structural protein is an extracellular matrix protein.

Claim 8 (original): The implantable prosthesis of claim 1 wherein the filler comprises a mixture of hydrogel and structural protein.

Claim 9 (original): The implantable prosthesis of claim 1 wherein the filler comprises a biologically active agent.

Claim 10 (original): The implantable prosthesis of claim 9 wherein the biologically active agent is dispersed within the hydrogel or protein.

Claim 11 (original): The implantable prosthesis of claim 9 wherein the biologically active agent is selected from the group consisting of a growth factor, a cell attraction compound, an anticoagulant and combinations thereof.

Claim 12 (original): The implantable prosthesis of claim 9 wherein the biologically active agent is VEGF.

Claim 13 (original): The implantable prosthesis of claim 9 wherein the bioactive agent is a growth factor.

Claim 14 (original): The implantable prosthesis of claim 9 wherein the bioactive agent is a progenitor attraction compound.

Claim 15 (original): The implantable prosthesis of claim 9 wherein the bioactive agent is an anticoagulant.

Claim 16 (original): The implantable prosthesis of claim 1 wherein the pores extend through the rigid material.

Claim 17 (original): The implantable prosthesis of claim 1 wherein the pores have an interconnecting porosity.

Claim 18 (original): The implantable prosthesis of claim 1 wherein a nutrient is also located within the pores.

Claim 19 (original): The implantable prosthesis of claim 1 further comprising viable cells.

Claim 20 (original): The implantable prosthesis of claim 1 wherein the rigid material comprises a rigid polymer.

Claim 21 (original): The implantable prosthesis of claim 20 wherein the rigid polymer is selected from the group consisting of polysulfones, polyacetals, polyethersulfones, polyarylsulfones, polyetheretherketones, polyamides, polyurethanes, polytetrafluoroethylene, other fluoronated and perfluoronated vinylpolymers, polycarbonate, polyetherimides, tyrosine-derived polyarylate polymers, polylactic acid and polyglycolic acid-based composites and copolymers and mixtures thereof.

Claim 22 (original): The implantable prosthesis of claim 1 wherein the prosthesis is a mechanical heart valve prosthesis comprising an orifice ring and a rigid occluder attached to the orifice ring.

Claim 23 (original): The implantable prosthesis of claim 22 wherein the rigid occluder comprises the rigid material with pores.

Claims 24-39 (canceled)

Claim 40 (previously presented): An implantable medical device comprising a rigid material having pores present substantially close to a surface of the rigid material, and a filler, wherein said filler comprising a hydrogel, a structural protein, a bioactive

agent, or mixtures thereof, is located within the pores to promote cellular attachment and proliferation.

Claim 41 (previously presented): The medical device of claim 40 wherein said device is for contacting bodily fluids and/or tissue after implantation.

Claim 42 (previously presented): The medical device of claim 40 wherein said filler fills the pores.

Claim 43 (previously presented): The medical device of claim 42 wherein said rigid porous material with the filler presents a smooth surface to flow.

Claim 44 (previously presented): The medical device of claim 40 wherein said bioactive agent is dispersed within the hydrogel or protein.

Claim 45 (previously presented): The medical device of claim 40 wherein the bioactive agent is selected from the group consisting of a growth factor, a cell attraction compound, an anticoagulant and combinations thereof.

Claim 46 (previously presented): The medical device of claim 40 wherein the bioactive agent is VEGF.

Claim 47 (previously presented): The medical device of claim 40 wherein the bioactive agent is a progenitor attraction compound.

Claim 48 (previously presented): The medical device of claim 40 wherein the bioactive agent is an anticoagulant.

Claim 49 (previously presented): An implantable medical device comprising a rigid material having pores substantially extending through the rigid material to form a porous network, and a filler, wherein said filler comprising a hydrogel, a structural protein, a bioactive agent, or mixtures thereof, is located within the pores, and said porous network does not provide significant blood flow through the porous material.

Claim 50 (previously presented): The medical device of claim 49 wherein said porous network promotes cellular attachment and proliferation.

Claim 51 (previously presented): The medical device of claim 49 wherein said filler fills the pores.

Claim 52 (previously presented): The medical device of claim 51 wherein said rigid porous material with the filler presents a smooth surface to flow.

Claim 53 (previously presented): The medical device of claim 49 wherein said bioactive agent is dispersed within the hydrogel or protein.

Claim 54 (previously presented): The medical device of claim 49 wherein the bioactive agent is selected from the group consisting of a growth factor, a cell attraction compound, an anticoagulant and combinations thereof.

Claim 55 (previously presented): The medical device of claim 49 wherein the bioactive agent is VEGF.